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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,074	04/07/2004	Charles L. Gray JR.	310121.418	7228

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SEED INTELLECTUAL PROPERTY LAW GROUP PLLC  
701 FIFTH AVENUE  
SUITE 5400  
SEATTLE, WA 98104-7092

EXAMINER
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HAMO, PATRICK

ART UNIT	PAPER NUMBER
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3746

MAIL DATE	DELIVERY MODE
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01/31/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/820,074	<b>Applicant(s)</b> GRAY ET AL.	
	<b>Examiner</b> Patrick Hamo	<b>Art Unit</b> 3746	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-9 and 11-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-9 is/are allowed.
- 6) ☒ Claim(s) 1,2 and 11-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 16, 2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentin, 6,406,271 in view of Umeda et al., 6,186,748.

Valentin discloses a valve plate 16 for a swash plate piston pump, the valve plate comprising first 73 and second 74 kidney-shaped semi-circular ports that define inner and outer circumferences of an annular region and first 75 and second 76 compensating ports at top-dead center 41 and bottom-dead center 42 positions, respectively, and are in fluid communication with each other (col. 12, 11.55-56), the first

and second ports configured to be selectively coupled to high-and low-pressure fluid sources or low- and high-pressure fluid sources respectively.

Valentin does not disclose that the first and second pressure relief ports are located substantially outside the annular region.

However, Umeda teaches a piston pump with a valving element 1 with bypass ports M1 and M2 offset from the primary annular region defined by suction and discharge ports S and T. To access these ports offset from the annular region, the cylinders are provided with a notch e that communicates with the point at or near top- and bottom-dead center. Because both Valentin and Umeda teach pumping systems with rotating barrels of cylinders and valve plates, it would have been obvious to substitute the notched cylinder and offset bypass of Umeda for the compensating ports of Valentin in order to achieve the predictable result of regulating and maintaining within acceptable bounds the pressures within the cylinders.

In regards to claims 11 and 13, Valentin does not disclose that the means for equalizing pressure begins only after the cylinder ports of each pair begin to cross top-dead-center and bottom-dead-center, respectively. However, in combination with Umeda, the pressure compensation occurs at or after TDC and BDC rotation with the offset notches.

In regards to claim 12, Valentin discloses eight cylinders.

In regards to claims 14-16, Valentin discloses placing two cylinders in communication with each other via ports 75 and 76, the two cylinders diametrically opposite to each other. As the barrel continues to rotate, a next set of cylinders comes

into fluid communication simultaneously. As the barrel then continues to rotate, these two cylinders are cut off from the ports 75 and 76 and fluid communication is broken off. However, in combination with the notch and offset ports of Umeda, this would happen substantially simultaneously.

***Allowable Subject Matter***

Claims 4-9 are allowed.

***Response to Arguments***

Applicant's arguments, see pages 6-9, filed November 16, 2007, with respect to the rejection(s) of claim(s) 1, 2 and 11-16 under 35 U.S.C. 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of different interpretation of previously cited references.

As discussed above, it is the examiner's opinion that Valentin in view of the previously cited reference to Umeda teach all of the limitations substantially as claimed in the above claims. Valentin teaches to compensate for pressure spikes by coupling two opposing cylinders, one at top-dead-center and one at bottom-dead-center, to equalize the pressure between the two. Umeda teaches to compensate by providing bypass ports offset from the normal annular path of the cylinders and providing the cylinders with a notch to communicate with these ports. In combination, the two substantially teach what the applicant claims as the invention of claims 1, 2 and 11-16.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Hamo whose telephone number is 571-272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*Patrick Hamo*

PH

**DEVON C. KRAMER**  
**PATENT EXAMINER**  
*[Signature]*  
1/29/08